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ZUÑI AND THE ZUÑIANS.

BY

Matilda Cox ¹³⁸⁶
TILLY E. STEVENSON.
" "



PREFACE.

THAT the readers of this paper may understand the means afforded me for obtaining the information contained therein, I venture the following explanation :

During the summer of 1879 I accompanied the expedition sent out by Prof. J. W. Powell, U. S. Ethnologist, to visit the Pueblos of New Mexico and Arizona, for the purpose of studying the habits, customs, etc., of those strange people, and to make such collections of stone implements and pottery as we might be able to obtain.

The party, in charge of Mr. James Stevenson, proceeded from Washington direct to Santa Fé, New Mexico, crossing the plains by the Atchison, Topeka, and Santa Fé Railroad. By the excellent management of the officers of this road it has been brought to a degree of perfection not surpassed by any in the country. Their persevering efforts are shown not only by the rapidly increasing travel over that line, but also by the steady and rapid growth of the population along the valley of the Arkansas and through New Mexico. No other route to the far west offers more objects of attraction for scientific observations than this. College and other scientific expeditions, as well as those seeking pleasure in the western region should by all means go or return by this route.

Having reached Santa Fé, we made this town our starting point for the field. A week or more was spent here in

securing transportation and supplies for the prosecution of the work.

To General Sherman, who manifested great interest in the object we had in view, the expedition is deeply indebted. He not only requested his commanding officers serving in the West to render us all possible assistance, but gave us the benefit of his knowledge as to some of the most important points for examination.

To General Edward Hatch, commanding the District of New Mexico, the party extend most hearty thanks; not alone for the personal interest he exhibited in our investigations, but also for the material aid furnished by, or through him, and without which we could not have accomplished the work done.

Through the courtesy of Prof. Powell, who is ever ready to assist those engaged in Ethnologic research and all other branches of science, I am permitted to use the illustrations of some of the specimens collected during our journey, and which were deposited in the National Museum, as a part of the contributions of the Bureau of Ethnology. The illustrations bear the catalogue numbers of the Smithsonian Institution.

I. E. S.

WASHINGTON, D. C., April 18th, 1881.

ZUÑI AND THE ZUÑIANS.

IN the legendary lands of Central and South America, many explorers have opened mines of archæological wealth, and rebuilt, in imagination, the temples and altars whose ruins remain the mute, yet eloquent witnesses of a people long passed away.

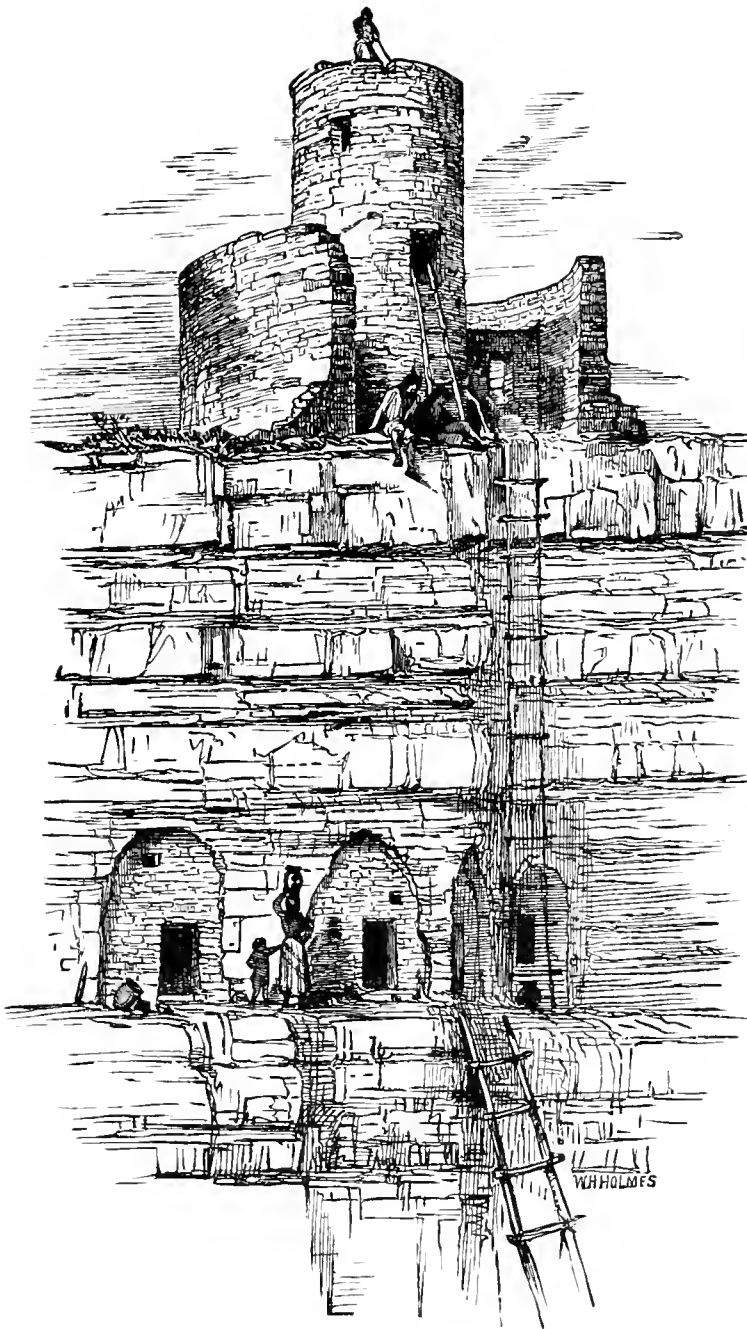
In our own country, too, much treasure has seen the light through well directed research in the fertile fields of the Southwest; but more remains to be acquired before we can recover the lost history of the race of men whose record is written in fragments on the cañon walls of Arizona and New Mexico, and whose traditions still speak to us, however imperfectly, through the people now living in the pueblos of that interesting region. We trace our information to its very sources in that land of antiquities, teeming with objects of interest to the ethnographer—a land that was once densely populated, then desolated, and afterward held in precarious tenure by the remnants of a departed race. The older ruins are still found in the valleys along the water-courses, where a pre-historic people dwelt in peace and prosperity until, driven by a powerful foe from the homes of their fathers, they were forced to seek refuge upon high cliffs and in the caves of cañon walls. These niches are still filled with the fame of the Cliff-dwellers. Many of the houses are almost perfectly preserved, while all that remains of the valley homes is in

ruins, where heaps of stones are crumbling, and where lie scattered the fragmentary lares and penates of a remote civilization.

How many generations of Cliff-dwellers lived in their strange fastnesses has never been determined; but the great antiquity of the structures which remain in these natural fortifications is unquestioned. Some of these places have become inaccessible, owing to the wearing away of the approaches, by the same elements which in geologic time had fashioned the recesses of the cañon-walls to which these people resorted for safety. When the cloud of war grew less threatening, they ventured to leave their towered fortresses where long had been their trials and many their privations, and settled upon the mesas—those high, flat-topped table-lands, forming such prominent features of the scenery in New Mexico.

The accompanying illustration, by W. H. Holmes, from his report in Bulletin No. 1, Vol. 2, U. S. Geol. Survey for 1876, will convey an idea of these ancient structures and the probable means adopted by the inhabitants in obtaining access to them.

The elevation of these sites enabled them to keep a sharp lookout for the enemy; while in the valleys below, along the streams that washed the feet of the cliffs, they sowed and gathered their crops. But this mode of life had also its drawbacks; it was too far from the house to the harvest-field, and the women grew weary, doubtless, of carrying water-jars up the steep acclivity of the rocky walls. So, in the course of time, when their natural enemies—those nomadic tribes by whom war had so long been waged—seemed sated with murder and plunder, the Mesa-dwellers descended to the valleys, their dwellings being once again erected upon the ruins of the towns where their forefathers had lived.



CLIFF-DWELLINGS AND TOWER, RIO SAN JUAN, SOUTHERN COLORADO.

Thus was completed the cycle of vicissitude in the history of these people—from valley to cliff, from cliff to mesa, from mesa to valley again. Driven by oppression from the homes of their ancestors, timidly venturing from rocky strongholds to the scarcely less defensible table-lands, and then encouraged further, did they at length regain their inheritance, and re-establish the system of pueblos which still endures. The present life of these modern villages, as well as the past history of the ancient towns, is fraught with endless interest for the ethnographer, and some fresh glimpses of both are given in the results secured during the past year by Mr. Stevenson, who conducted important investigations, and brought to Washington a remarkably fine collection of archaeological and ethnographic material.

The first point of interest visited by his party was the ruins of the Pueblo of Pecos, situated on a knoll about a hundred feet above the Rio Pecos, forty miles east of Santa Fé. Camp was made under the shadow of the old Spanish church, the walls of which, together with some of the interior wood-work and decoration, remain silent witnesses of a past civilization. Near one end of the town are the remains of two circular walls which have been described by some as estufas, or fire-houses, and supposed to have been used for religious purposes by the former inhabitants of the pueblo. Careful observation, however, renders it probable that these circular enclosures were designed to be reservoirs, and were used for the storage of snow to be consumed during the long droughts which prevail in that country. Such, at any rate, is the use now made of the large circular enclosure in the Pueblo of Laguna, in New Mexico. The inhabitants of the village, having for ages to carry water from distant springs during the times when the reservoir was exhausted, have worn a path six or eight inches deep in solid sandstone. What a history is graven in the silent,

winding footway; what weary pages would be filled, could the "testimony of the rocks" be written.

As already shown, the descendents of the Mesa-dwellers have mostly moved down into the valleys; but there are some exceptions to this rule. Among them the inhabitants

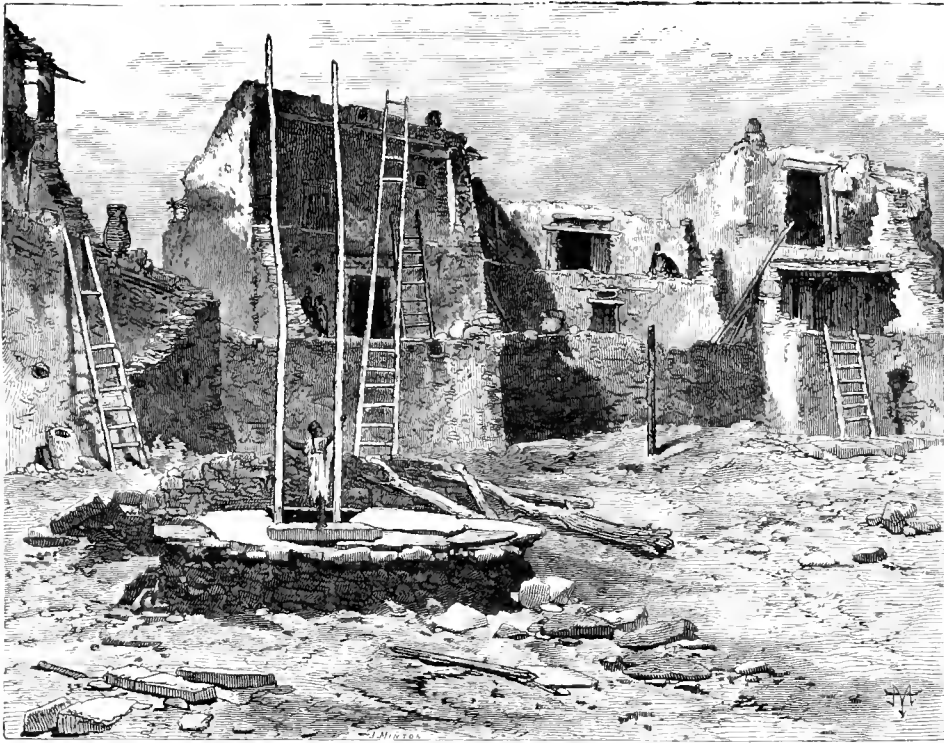


ILLUSTRATION OF A PORTION OF ONE OF THE MOQUI PUEBLOS DESCRIBED BY
PROFESSOR J. W. POWELL.

of Acoma, in New Mexico, and those of the Province of Tusayan, in Arizona. Acoma, interesting on account of its antiquity, remains upon an almost inaccessible mesa, the only approach to which is by means of steps hewn in the rocky acclivity. The Province of Tusayan consists of seven

pueblos, two of which, *Shi-pau-i-lux-i* and *Mi-shong-i-ni-vi* are situated closely together on the same mesa. It is an interesting fact to the ethnographer, that the inhabitants of these two pueblos have preserved two distinct dialects, notwithstanding their daily intercourse perhaps for centuries.

Many pueblos are scattered along the Rio Grande; but the inhabitants of these villages, having mixed more or less with the Mexicans for many generations, retain less of their purely aboriginal character than is still to be traced in the population of more isolated towns, such as Moqui and Zuñi. The last named, in many respects the most interesting of all these strange settlements, was the principal object of Mr. Stevenson's attention.

Zuñi is situated in Western New Mexico, being built upon a knoll covering about fifteen acres, and some forty feet above the right bank of the river of the same name.

Their extreme exclusiveness has preserved to the Zuñians their strong individuality, and kept their language pure. According to Prof. Powell's classification, their speech forms one of four linguistic stocks to which may be traced most, if not all, the pueblo dialects of the Southwest. In all the large area which was once thickly dotted with settlements, only thirty-one remain, and these are scattered hundreds of miles apart from *Taos*, in Northern New Mexico, to *Isleta*, in Western Texas. Among these remnants of great native tribes, the Zuñians may claim perhaps the highest position, whether we regard simply their agricultural and pastoral pursuits, or consider their whole social and political organization.

Their herds comprise a few cattle, but consist chiefly of sheep, goats, horses, and "buros"—the curious little donkeys known by this name being the beasts of burden, and the horses being used exclusively for riding. They have also some pigs and chickens, and innumerable dogs.

Wheat, corn, beans, pumpkins, gourds, melons, peaches, and peppers complete the list of their agricultural products.

The corn is remarkable for the extraordinary variety of color it presents. One year's crop of grain is always kept in store untouched, to be used in case of failure of a crop, or other emergency. Some of the farms and orchards are from five to twenty miles distant from the village; but there are also some queer little gardens at the very foot of the knoll, where peppers and melons are raised. No artificial irrigation is practised, though the system of *acequias* is in common use in many other pueblos. Grain is planted in the naturally-watered valleys, and orchards are set out upon the mesas where there is more atmospheric moisture. Entire dependence is placed upon the rain-fall; and so wise is the Chief who presides over that element, that a storm invariably comes within two days after the dance for rain is performed.

The town of Zuñi is built in the most curious style. It resembles a great beehive, with the houses piled one upon another in a succession of terraces, the roof of one forming the floor or yard of the next above, and so on, until in some cases five tiers of dwellings are successively erected, though no one of them is over two stories high. These structures are of stone and adobe. They are clustered around two plazas, or open squares, with several streets and three covered ways through the town. In the centre of the largest plaza stands the old Spanish Church, built several centuries ago, but still remarkably preserved, even to the wood carvings about the altar. Among other ornaments are two well-erected wooden statues of saints, each about three feet in height, or rather these were to be seen there, until removed with other relics to Washington, as a part of the immense collection of ancient and modern pot-

tery, stone implements, etc., about to be placed on exhibition in the National Museum.

Fig. 41,912 is an illustration of one of the statues from Zuñi, which is remarkable for the enamel finish on the limbs and face.

The walls of this church are of adobe, as usual, and no



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(10)

WOODEN STATUE OF SAINT.

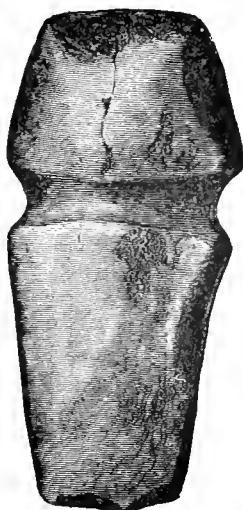
metal of any kind appears to have been used in its construction, even the wood-work being held together by pegs of the same material. The church has a gallery, the only means of reaching which is by a covered stairway on the outside of the building, leading also to the belfry, where two bells hang from a wooden beam. No date or name

was revealed upon close scrutiny, nor was there any evidence that these bells had ever been furnished with clappers. On the contrary, the indentations on the outer surface favor the belief that the bells were rung by hand with stone hammers.

No. 42,205 is a stone hammer, grooved in the centre, around which a withe was wound when it was in common use. Many of these implements are collected from the ruins by the present Pueblos, and used as pounding stones or mauls.

The old wooden cross still stands erect in the church-yard where, for years, the people were compelled by Spanish priests to kneel and do penance. In the same enclosure are buried the dead, without ceremony, save wailing and lamentation, and placing in the grave with the body many of the worldly goods of the departed.

The upper houses of Zuñi are reached by ladders from the outside. The lower tiers have doors on the ground plan, while the entrances to the others are from the terraces. There is a second entrance through hatchways in the roof, and thence by ladders down into the rooms below. In many of the pueblos there are no doors whatever on the ground floor, but the Zuñians assert that their lowermost houses have always been provided with such openings. In times of threatened attack the ladders were either drawn up or their rungs were removed, and the lower doors were securely fastened in some of the many ingenious ways these people have of barring the entrances to their dwellings. The houses have small windows, in which mica was



42205
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STONE HAMMER.

originally used, and is still employed to some extent ; but the Zuñians prize glass highly, and will secure it, whenever practicable, at almost any cost. A dwelling of average capacity has four or five rooms, though in some there are as many as eight. Some of the larger apartments are paved with flagging, but the floors are usually plastered with clay, like the walls. Both are kept in constant repair by the women, who mix a reddish-brown earth with water to the proper consistency, and then spread it by hand, always laying it on in semicircles. It dries smooth and even, and looks well. In working this plaster the squaw keeps her mouth filled with water, which is applied with all the dexterity with which a Chinese laundryman sprinkles clothes. The women appear to delight in this work, which they consider their special prerogative, and would feel that their rights were infringed upon were men to do it. In building, the men lay the stone foundations and set in place the huge logs that serve as beams to support the roof, the spaces between these rafters being filled with willow-brush ; though some of the wealthier Zuñians use instead shingles made by the carpenters of the village. The women then finish the structure. The ceilings of all the older houses are low ; but Zuñi architecture has improved, and the modern style gives plenty of room, with doors through which one may pass without stooping. The inner walls are usually whitened. For this purpose a kind of white clay is dissolved in boiling water and applied by hand. A glove of undressed goat-skin is worn, the hand being dipped in the hot liquid and then passed repeatedly over the wall.

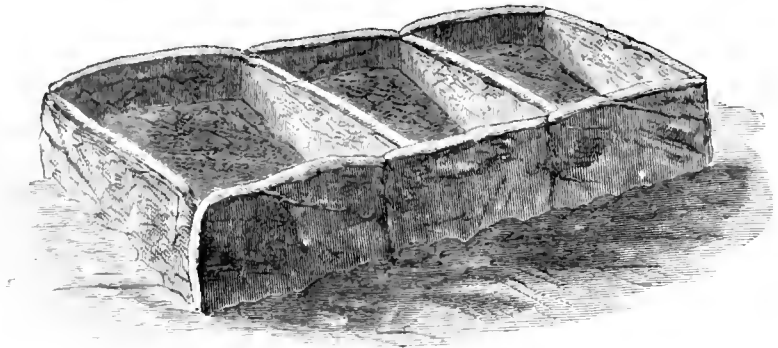
In Zuñi, as elsewhere, riches and official position confer importance upon their possessors. The wealthy class live in the lower houses, those of moderate means next above, while the poorer families have to be content with the upper-

most stories. Naturally no one will climb into the garret who has the means of securing apartments below. Still there is little or no social distinction in the rude civilization, the whole population of the town living almost as one family. The Alcalde, or Lieutenant-Governor, furnishes an exception to the general rule, as his official duties require him to occupy the highest house of all, from the top of which he announces each morning to the people the orders of the Governor, and makes such other proclamation as may be required of him.

Each family has one room, generally the largest in the house, where they work, eat, and sleep together. In this room the wardrobe of the family hangs upon a log suspended beneath the rafters, only the more valued robes, such as those worn in the dance, being wrapped and carefully stored away in another apartment. Work of all kinds goes on in this large room, including the cookery, which is done in a fire-place on the long side of the room, made by a projection at right angles with the wall, with a mantel-piece on which rests the base of the chimney. Another fire-place in a second room is from six to eight feet in width, and above this is a ledge shaped somewhat like a Chinese awning. A highly-polished slab, fifteen or twenty inches in size, is raised a foot above the hearth. Coals are heaped beneath this slab, and upon it the *H'aiavi* is baked. This delicious kind of bread is made of meal ground finely and spread in a thin batter upon the stone with the naked hand. It is as thin as a wafer, and these crisp, gauzy sheets, when cooked, are piled in layers and then folded or rolled. Light bread, which is made only at feast times, is baked in adobe ovens outside the house. When not in use for this purpose, the ovens make convenient kennels for the dogs and play-houses for the children. Neatness is not one of the characteristics of the Zuñis. In the late autumn and win-

ter months the women do little else than make bread, often in fanciful shapes, for the feasts and dances which continually occur. A sweet drink, not at all intoxicating, is made from sprouted wheat. The men use tobacco, procured from white traders, in the form of cigarettes made from corn-husks; but this is a luxury in which the women do not indulge.

The Pueblo mills are among the most interesting things about the town. These mills, which are fastened to the floor a few feet from the wall, are rectangular in shape, and divided into a number of compartments, each about twenty



PUEBLO GRIST MILL.

inches wide and deep, the whole series ranging from five to ten feet in length, according to the number of divisions. The walls are made of sandstone. In each compartment a flat grinding stone is firmly set, inclining at an angle of forty-five degrees. These slabs are of different degrees of smoothness, graduated successively from coarse to fine. The squaws, who alone work at the mills, kneel before them and bend over them as a laundress does over the wash-tub, holding in their hands long stones of volcanic lava, which they rub up and down the slanting slabs, stopping at intervals to place the grain between the stones.

As the grinding proceeds, the grist is passed from one compartment to the next until, in passing through the series, it becomes of the desired fineness. This tedious and laborious method has been practised without improvement from time immemorial, and in some of their arts the Zuñians have actually retrograded. Such is the case with the manufacture of pottery, their plastic art having deteriorated to a considerable extent.

The pottery found in the ruins throughout the Southwest, especially in the Cañon de Chelly and San Juan is superior to any now made, not only in ornamentation, but also in fineness of quality and symmetry.

The ancient products show a much finer paste than any now made, owing no doubt to the use of some kind of material, the knowledge of which has been lost. In consequence, moreover, of the great increase of their stores, the people have become careless about this beautiful work, the women, who alone make the pottery, having comparatively little time to devote to its manufacture and ornamentation. Figures 40,812, 40,813, 40,814, 40,815, 40,816, are specimens of ancient ware obtained from the Zuñians. Many photographs of these figures were made by Mr. J. K. Hillers, the artist accompanying Mr. Stevenson. The decoration of the old pottery consists chiefly of scrolls, straight lines and walls of Troy. The earliest attempts to represent animals seem to have been directed toward depicting birds, some very old samples with designs of this character having been found.

The favorite bird-figure bears a rude resemblance to the Chinese emblem of prosperity.

That the ancient pottery bears a resemblance to that of Egypt and Cyprus is evident to any close observer. It is also somewhat like old Japanese ware, in the animal handles, and in a design known as the old Japanese seal.

In connection with the subject of ancient pottery, I would

call attention to a class which is found very widely distributed, perhaps more so than any other kind of aboriginal ware, and which is called laminated or corrugated pottery.



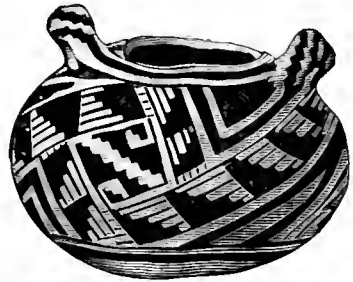
40812.

(A)

ANCIENT PITCHER.

Figures 40,817, and 40,818, are examples of this production. It is found in the mounds of the Ohio and Mississippi valleys, in California, abundantly in Utah, indeed throughout the United States and Territories. This ware seems to have been used for all kinds of domestic purposes, and from ample evidence which we have, it must have comprised a very large proportion of the ware in use during a certain period: and if such was the case, it may have been

employed in religious or ceremonial observances. Fragments of this pottery are ever present among the ruins on the mesas, and in the valleys of the streams of the southwest. In its manufacture delicate care and patience were necessary, as the thread like layers of clay were laid one on the other, throughout the process until the vessel was completed. No polishing stones or trowels were employed, only the fingers and hands, the minutest impressions of the skin being noticeable on most of it. There is also another variety of pottery exhibiting a highly glazed surface. Specimens of this kind are found usually in very small fragments amongst the mesa ruins, though occasionally bits

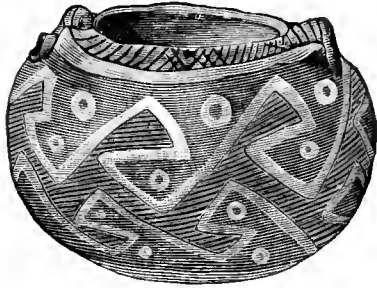


40813.

(1/3)

LOWER PORTION OF ANCIENT
VASE WITH THE BROKEN EDGE
SMOOTHED OFF.

are found in the valleys. The present Pueblo Indians believe this process of glazing to be a lost art, and from their earliest recollections they have endeavored to produce the



40814.

($\frac{1}{3}$)

LOWER PORTION OF ANCIENT
VASE WITH BROKEN EDGE
SMOOTHED OFF.

glaze, but success has never attended their efforts. After the most careful investigations and chemical analysis Dr. Hoffman affirms the glazing was purely accidental. "In nearly every fragment examined the body contained from one-fifth to three-fourths as much saline material as did the carefully reserved scales of glazed surface. One vessel having a neck so small as to

prevent the introduction of the youngest child's hand, was found to be more highly glazed on the interior surface than upon the outer. The only reasonable explanation is that as the country is exceedingly hot and dry during the greater portion of the year, and the small streams or ponds dry or decrease in quantity by evaporation thus concentrating the alkalis held in suspension which were obtained by drainage from the surrounding areas, ultimately causing the water to become unfit for culinary purposes. The larger ponds found in the ravines and small valleys being reserved for the latter purpose, the smaller



40815.

($\frac{1}{4}$)

ANCIENT JAR.

bodies of water no doubt were used in preparing the clay for the vessels, and also for washing the surfaces so as to cause smoothness, etc. The clay being thus mixed and the vessels dried for the oven, the saline matter would naturally be, to some extent carried to the surface of the vessel by evaporation, which would be more thoroughly completed by baking, causing the glazing presented. This was especially noticeable in the small-necked vessel."

Complete description, etc., in manuscript in the report



40816.

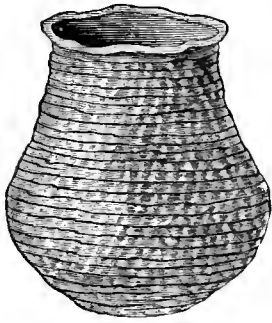
(1)

ANCIENT WATER JAR.

of the Davenport Academy of Science to be published within a few weeks.

In one respect alone does the pottery of the present day show an improvement upon that of the older time. The latter is decorated with no designs of animals save those moulded figures which serve for handles, while the modern ware is ornamented profusely with representations of every animal known to the makers, their designs being laid on with the brush over the entire surface of the utensils.

The only implements used in making pottery are a small earthen plate and a sort of trowel, made of a gourd, though frequently a suitable fragment of pottery itself is employed



40817.

(4)

CORRUGATED
ANCIENT POTTERY.

instead of the latter. No wheel is used, nor is any kind of lathe or turning machine known to these people. A lignitic earth, found on the mesa where remain the ruins of old Zuñi, is ground to a powder and mixed with a small quantity of pulverized pottery, fragments of the latter being carefully hoarded for this purpose. The powder thus compounded is mixed with water enough to make a pasty mass, which is then kneaded like dough. The more care taken in pulverizing the

material and the more time spent in working it, the finer becomes the paste. When the mass reaches such a state of consistency that the fingers can no longer detect the presence of gritty particles, it is still more delicately tested with the tongue, and when found to be in a satisfactory state it is placed in covered vessels to retain the moisture until wanted for use. To mould it, a sufficient quantity is first made into a ball and then hollowed out with the fingers until it assumes the conventional bowl shape which serves as the foundation, to be afterwards built up and elaborated into any desired shape.



40818

(3)

CORRUGATED
ANCIENT POTTERY.

The required article is then formed by the successive additions of strips of the material, about an inch in width and

long enough to encircle the bowl—each layer being pressed on the brim with the fingers and accurately coaptated, the trowel being then skillfully used to finish the joining and remove all traces of the original separation of the strips.

Most of the moulding of the vessel into its final shape is done upon the inside with a trowel, this implement being chiefly used on the outside to smooth the surface. The clay, if it has been properly worked, possesses sufficient tenacity and plasticity to admit of being pressed and scraped without cracking.



39934.

(3)

ZUÑI TINAJA, OR WATER JAR.

The completed article is placed for a day to dry in the sun; it then becomes very friable and must be handled with much care until it is baked. Nevertheless, this is the state of the manufacture in which the objects are to be decorated.

Fig. 39.934 shows a modern Zuñi water jar, ornamented in diamond figures, surrounded with scrolls and drawings of deer. I did not learn the significance of the white spot on the rump of the deer, but the spade-like figure, with dark line running to the mouth, represents the heart and expresses life.

LAGUNA POTTERY



ZUNI POTTERY



The ground is usually white. A fine clay of that color is dissolved in water and then made into sticks to be dried in the sun; when required for use these sticks are rubbed to powder on a stone, again mixed with water and in the liquid state applied to the object with a rabbit-skin mop. After thorough drying of this foundation, the designs are painted with brushes made from the Spanish bayonet, the pigments having been ground in stone mortars and made into a paste with water. One remarkable thing about the manufacture of these wares is, that the Indians never have any designs before them, either in moulding or in ornamenting their work.

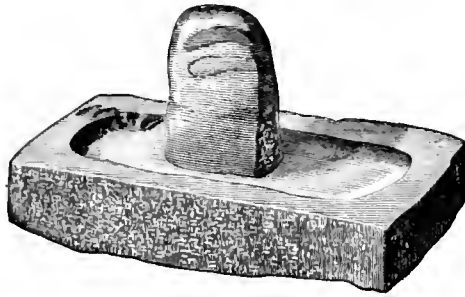
Fig. 42,272 represents the pestle and mortar in which the mineral pigments are ground. When the decoration is completed, the articles are ready for baking. A suitable out-door spot is selected and a day is chosen when there is no wind to interfere with the process. The pieces to be fired are then placed on stones, by which means they are raised a few inches from the ground and an oven of "chips," obtained from the sheep and goat pens, is built around and over them. The fire is carefully managed in order to secure, first a gradual heating, after which the entire mass is subjected to an intense heat until the baking is completed, the process usually requiring from one to two hours.

A fine specimen, Fig. 39,914, of double-lobed canteen, in red ground, simply ornamented in white, was presented by the Cacique of Zuñi.

The comparative study of the ceramics of various pueblos is one of great interest and importance, as the knowledge of their art will lead us, link by link, along the chain of evidence which bears upon the unsolved problem of their origin.

In many of the pueblos the art of using the brush in decorating pottery is unknown. In these villages they employ but

two styles of ornamentation, a reddish colored surface produced by a wash of red ochre, and one of black, both presenting quite a polish. The vessels being made of a yellowish clay in a manner heretofore described, are placed in the sun where they remain for some hours. They are then washed with a solution of the red ochre, and while wet the process of polishing begins—the squaw, with untiring energy, rubbing over the surface again and again with her polishing stone, every little while passing a wet cloth over the vessel so as to keep its surface moist. When the polishing is completed the articles are again placed in the sun for a short time before receiving their final baking in the ovens. When the baking is



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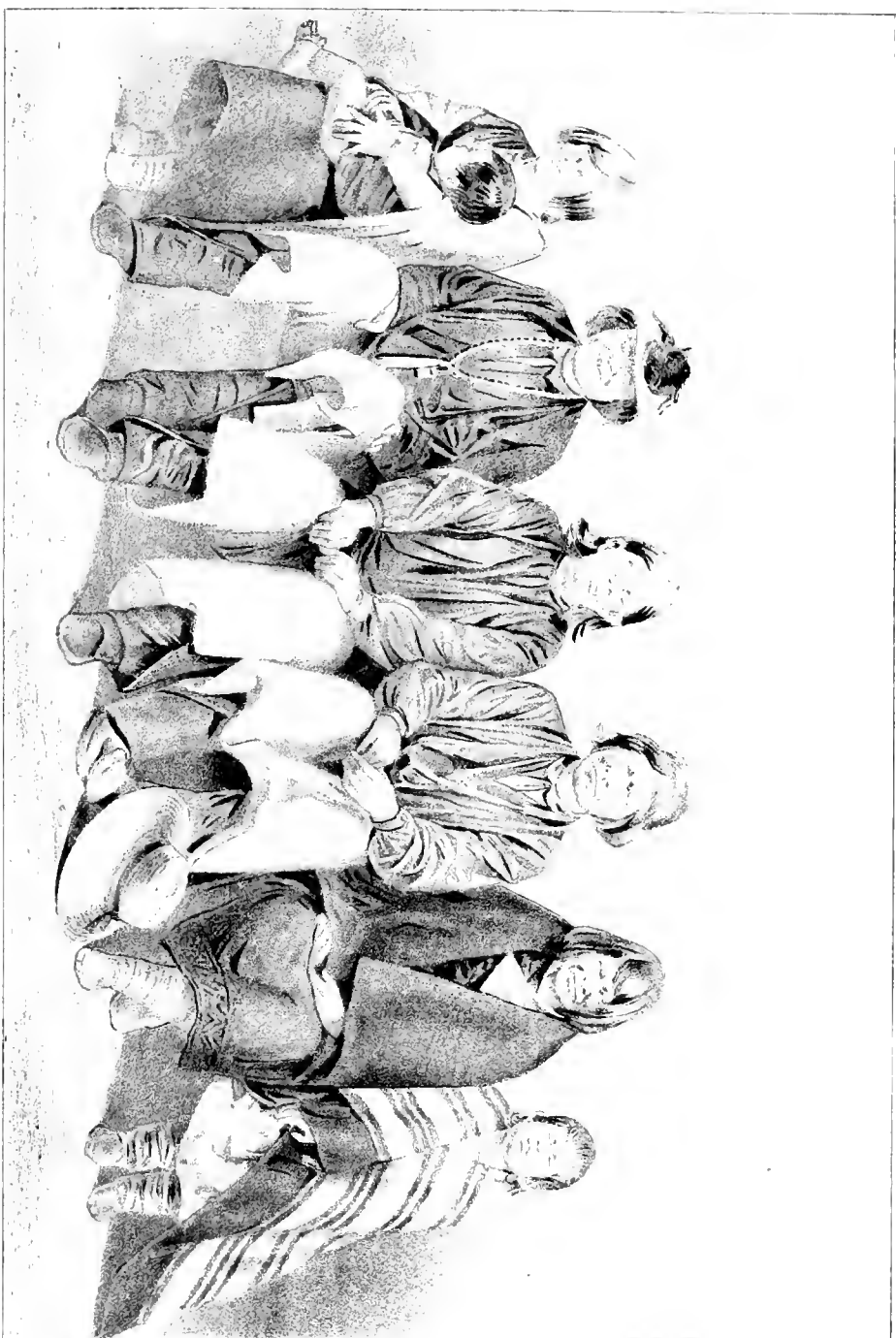
PESTLE AND MORTAR.

thoroughly completed such vessels as are to be of the red-dish color are removed, while those which are to assume the black remain in the ovens, which are then covered with a quantity of loose manure. The fire is so smothered by this process

as to produce a dense smoke, and it is this smoke absorbed into the pottery that produces the black coloring, no black pigment of any kind having been used.

While there is no attempt at designing with the brush, there are many pretty and curious designs in the moulding of this ware, such as water jars and bowls with fluted edges, varieties of birds, and queer figures.

The manufacture of pottery is not the only decorative work performed by the women of Zuñi. Their blankets are of inferior quality, they preferring to trade with the Navajos and Moquis for these particular articles; but their dresses

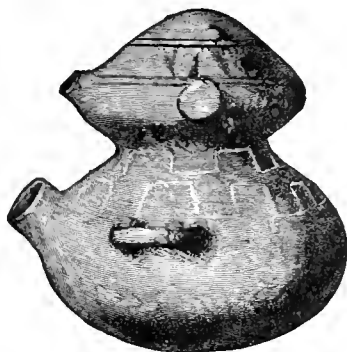


GROUP OF ZUNI ALBINOS.

of a diagonal cloth of home-dyed blue, embroidered top and bottom in a lighter shade, are most picturesque, the embroidery is very similar to the Chinese stitch. But the work, remarkable for its exquisite fineness, is that done in the weaving of the long belts worn by the women and the garters for the men. These have usually a red ground with designs in green and white woven in. These colors are procured by trade with the whites, the only dye known to the Zuñi's being indigo.

Let us turn now from things made in Zuñi to the makers themselves, and see what manner of people they are. The men are rather below the average height of an American, and the women are quite *petite*, with small hands and feet, and remarkably symmetrical limbs. The general appearance and style of dress in both sexes is very fairly shown in some of the accompanying illustrations.

These people are dark-haired; but among them are seven or eight albinos, and it is a fact of physiological interest that no two of these belong to the same family. There are three men, two or three women, a girl of eight years, and an infant. They have light golden hair and complexions of extreme delicacy, but all suffer from a weakness of the eyes. To such an extent does the absence of choroid pigment affect their vision, that they are obliged to protect their eyes from even ordinary daylight. It is not true, as has been affirmed, that the subjects of this freak of nature are compelled to live apart from the rest of their tribe. No two of them reside in the same family; the older ones are married and



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DOUBLE-LOBED CANTEEN.

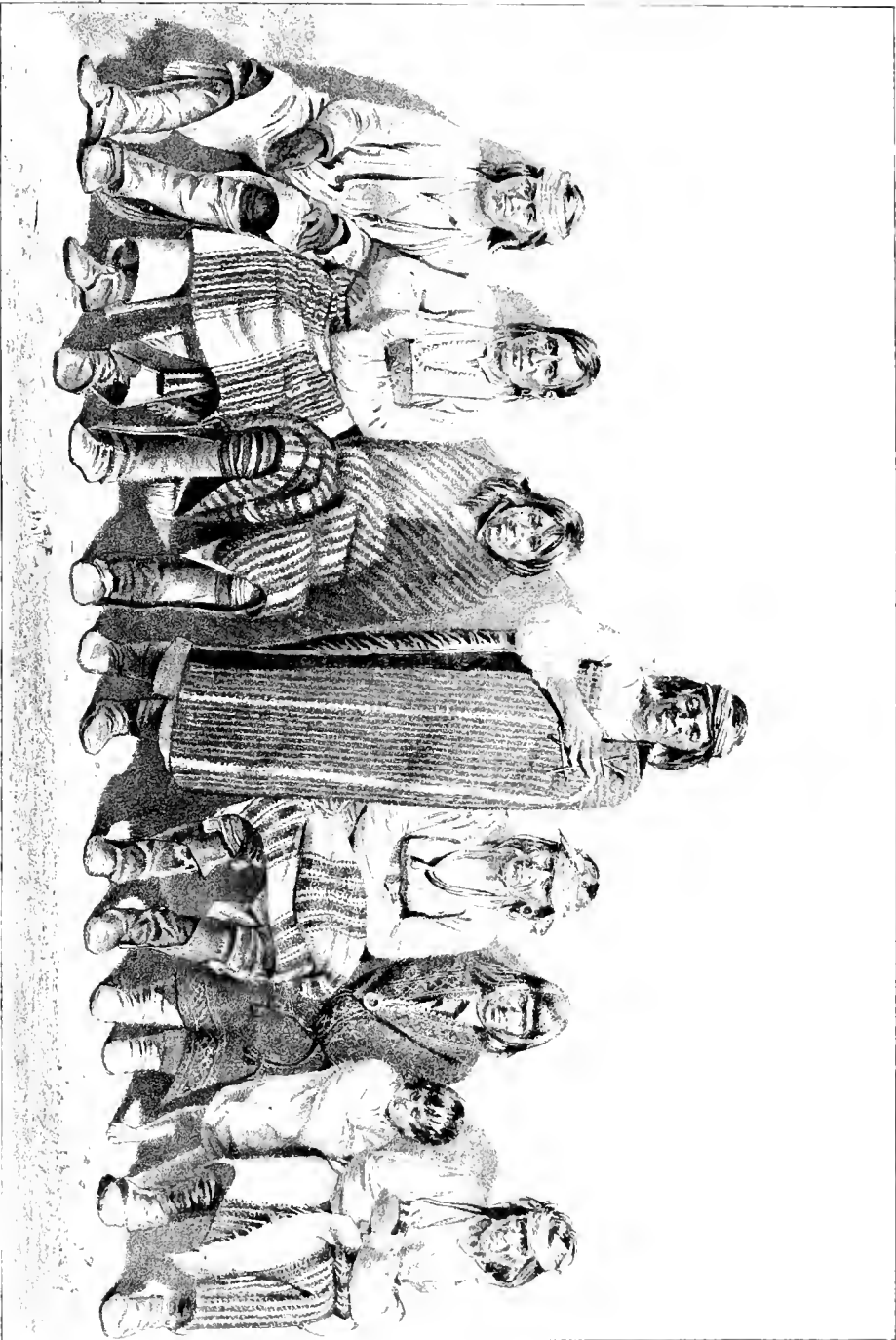
have healthy offspring, and no one of them is debarred from social, political, or religious privileges.

A curious custom prevails in Zuñi of applying a paste made of ashes and water to the faces of all new-born male children, and the same practice is continued during their infancy. This is intended to prevent the growth of beard.

The system of government, though one characteristic of a comparatively low state of civilization, is, nevertheless, complete as far as it goes. The forms are fully carried out, justice is secured, and the affairs of state are administered in a manner fully meeting the requirements of the case. The governor is *ex officio* the judge before whom are tried all persons charged with offenses of whatever kind, and his decision in the case is final. He is assisted in carrying out the law by a council composed of the civil officers of the pueblo.

Pedro Pino, one of the oldest inhabitants, is apparently the most intelligent person in the village. He is the only one of them who possesses sufficient knowledge of the Spanish language to communicate with the outside world by word of mouth. Though holding no official position his fluency in speaking Spanish, together with his mature judgment and good sense, commands for him a high seat in the councils of his people. Appreciating the advantages of education, he is anxious to have the youth of the pueblo taught English. He sets great value upon some letters which he has from time to time received from officers of the army who have passed through the country. One of the papers bears date of 1841; another, bearing General Sherman's autograph, styles Pedro Pino "the wisdom of Zuñi," and all tell the same story of unvarying courtesy and hospitality shown to travelers by the people of this village.

According to Pedro's tradition, his people at one time



THE CACIQUE OF ZUÑI AND HIS ASSISTANTS.

lived in the Cañon de Chelly, in Arizona, where they had been driven by their inveterate enemies, the Navajos and Apachés. Moving thence they scattered for a while, until the continued aggressions of their foes compelled them again to unite their forces for mutual protection. Then it was that they built a town on the present site of Zuñi. Misfortune, however, still pursued the unhappy race, who were obliged to flee for their lives before a mighty flood which threatened to overwhelm them. They took refuge upon the mesa about two miles from the Zuñi of to-day. Though this table-land is a thousand feet above the valley, the waters rose almost to the top, and the fear of a universal flood, which would sweep them from the face of the earth, came upon the people. In such dire extremity as this it was resolved to propitiate the flood, and thus avert, by human sacrifice, further disaster. Two victims, a man and a woman, were put to death in the waters in order to abate the flood. The offering proved efficacious; the calamity was stayed, and by some miraculous agency the victims were turned to stone. Towering hundreds of feet above the level of the mesa stands to-day a columnar rock capped with likenesses of two human heads, a monument "more lasting than brass" of the peril from which the nation was happily delivered.

Whilst the old Zuñians still occupied the mesa, they were attacked by the Spaniards to avenge the supposed death of a priest who had been sent among them as a missionary many years before. The priest, feeling himself entirely forgotten by his own people, had identified himself with those among whom he had dwelt so long. Apprised of the approach of the hostile Spaniards, the Indians prepared to defend themselves with huge stones to be hurled upon the enemy should they attempt to scale the mesa by the only practicable pathway up the almost perpendicular

face of the cliff. But when the cause of the hostile demonstration became known to the Indians, the priest in the absence of paper on which to write, scraped a buckskin smooth and wrote upon it a message to the attacking party.

The skin was fastened to a large stone and thrown down into the valley. Upon this information of the safety of the priest, the Spaniards retired, leaving the Zuñians undisturbed. This tradition is very similar to the account given in Davis' "Conquest of Mexico," of Coronado's attack upon Cibola, and this author states that "beyond doubt ancient Zuñi and Cibola were the same Pueblo."

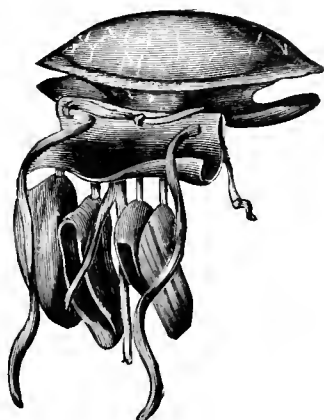
The ruins upon the mesa are very extensive. The houses were built entirely of stones, so carefully selected and so accurately fitted as to appear as if hewn. Many of the walls still stand eight or ten feet high. To judge by the deeply-worn pathway leading up the ascent, the spot must have been inhabited for many generations. There are two ruins between the mesa and the present site of Zuñi, these being the places where, according to Pedro Pino's narration, these people first settled on descending from the table-land. But the Navajoes gave them no peace, and it became necessary to take measures for self protection, or else return to their elevated stronghold, which they were loth to do. A grand council of all the Pueblos of the vicinity was held, and it was decided, after long and grave deliberation, to adopt a style of architecture which seemed to promise the end they had in view—their desire being to hold the position then occupied. They determined to build their houses one upon another, so that the topmost tier would give them a good lookout, while the consolidation of the buildings would afford strong fortification in case of attack. So the Zuñians after long absence returned to the knoll upon which they had formerly settled, and built there the town which they now inhabit.

However defective or inaccurate the tradition may be in some particulars, the necessity for adequate defense of the community from the attacks of their enemies undoubtedly gave rise to the curious construction of the houses, not only in this, but in other pueblos. The tradition is claimed by the Zuñians to have come down to them through many generations, and the wise elders of the community take great pains to impress this unwritten history upon the minds of rising generations.

A curious rattle (figure 41,853) is made of turtle shell and goat toes, which is used in the sacred dances, being attached to the calf of the right leg. These rattles are the property of their church, and it was with great difficulty one was procured.

Little can be said respecting the myths and superstitions of this strangely interesting people. Without a knowledge of their language, only vague inferences can be drawn from witnessing the weird dances which form so prominent a part of their religious ceremonies. The Cacique is the

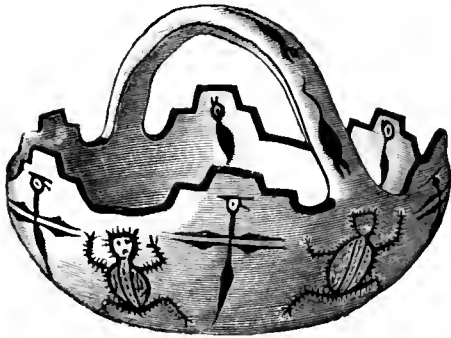
head of the Zuñian Church, and he is to these people all that the Pope of Rome represents in the Catholic world. He is infallible, and his word is law. His daily visits to the mesa to watch the rising sun have no doubt given rise to an impression that these people worship that luminary. But these visits, so far from being of religious significance, are for the very practical and useful purpose of keeping the calendar. The Zuñians have some little knowledge of the changes of the sun, and they understand that their new



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TURTLE SHELL RATTLE
USED IN DANCES.

year begins five days from the time when the shadow falls at a certain angle from the mesa. There appears to be much system in their religious observances and forms of worship. The Cacique has six assistants who preside with him in religious ceremonies and hold their offices by inheritance, and there is one female Cacique whose only duty is to wait upon the great man. Ten men appointed annually by the head of the church, are the witty element in the dances, and they are, moreover, persons of great consequence in ecclesiastical affairs, each of these *Co-ya-ma-shis* having in his special charge the dance for some particular purpose. Many



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SACRED POTTERY BASKET.

of the dances are held by day in the open plazas, but the most sacred ceremonies are performed at night in the houses, and always before an altar. Strangers may be present at these observances by invitation from the Cacique. Instead of the wicked midnight orgies

which priests have for centuries sought to stigmatize, and which are still sometimes alleged to take place, one witnesses only certain religious rites of unknown meaning, performed with decorum and solemnity.

Figure 41,019 is a beautifully fashioned basket used exclusively for the sacred meal, which is sprinkled upon the ground in front of the dancers, upon the alters, and various objects connected with their religion.

The modern *estufas* (dance houses) are both rectangular and circular, those of *Zuñi* are rectangular like their dwellings, which they adjoin and with which they are built in line. As

to the fires supposed to be perpetually burning in the estufas, it is certain that there is nothing of the sort in Zuñi. Still, this does not preclude the supposition that the Zuñians are fire-worshippers. They have a sacred call for fire, frequently heard in their ceremonies; certain dances are always celebrated with the burning of immense fires throughout the village; and before the family meal is partaken, food is thrown into the fire with a call to that element to devour it.

Some other equally erroneous and no less prevalent notions respecting Zuñi may be mentioned. For instance the eagles always found caged in such numbers in the pueblo are by no means the sacred objects they have been supposed to be. The fact is these royal birds are caught, caged and carefully fed in order to furnish a supply of the plumes which are used in all religious ceremonies to decorate their altars and the persons of those who take part in such observances. It corresponds in a manner with the ostrich-farming which has become so important an industry in South Africa. Two traits of these Pueblo Indians may be noted before closing. Although so peaceable in disposition and given over to agricultural and pastoral pursuits, they are as one with the nomadic savages of the west in the practice of scalping their fallen foes. Proudly declaring that they have never yet killed a white, they add the boast with greater parade still, that they have slain and scalped many of the Navajos, the inveterate foes of their nation. Their prejudice against the Mexican race is a strong characteristic. To such length is it carried that a Mexican is rarely allowed to enter the village, and no person of that nation is ever permitted to witness their dances of ceremony—for the reason, it is believed, that such an evil presence would make the dance result in the very opposite of the desired good.

No sketch of Zuñi which can be presented within the limits of a single article, can afford more than a glimpse at the life of the strange people who inhabit that village.

The result of the investigations already made suffices to show how rich a field remains to be worked in this and other pueblos of the southwest. It is to be earnestly hoped that our Government will, with enlightened liberality, cause further research to be conducted in the interests of archaeological and ethnographical science, and secure for itself, before it shall be too late, the data required to fully elucidate the history of the Pueblo Indians.

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